

**WVR7200 Waveform Rasterizer
Declassification and Security
Instructions**

www.tektronix.com



077-0672-00

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Preface

This document helps customers with data security concerns to sanitize or remove memory devices from the WVR7200 Waveform Rasterizer.

These products have data storage (memory) devices. These instructions tell how to clear or sanitize the memory devices. The instructions also tell how to declassify an instrument that is not functioning.

Products	This document covers all WVR7200 instruments.
Related Documents	The following table lists the documentation that is available for the product and shows where you can find it: in a printed manual, on the product documentation CD-ROM, or on the Tektronix Web site.

Table i: Product documentation

Item	Purpose	Location
User Manual (077-0668-XX)	Provides operation and application information. This manual is available in English, Japanese, and Simplified Chinese.	Product Documentation CD and available at www.tektronix.com/downloads
Online Help	In-depth instrument operation and UI help.	On the instrument
Specifications and Performance Verification Technical Reference (077-0670-XX)	Specifications and procedures for checking instrument performance.	Product Documentation CD and available at www.tektronix.com/downloads
WFM and WVR Series Management Information Database (MIB) Programmer Manual (077-0261-XX)	SNMP command reference for remotely controlling the instrument.	Product Documentation CD and available at www.tektronix.com/downloads
Service Manual (077-0676-XX)	Provides information about adjustments, repair, and replaceable parts.	Available at www.tektronix.com/downloads
Installation and Safety Instructions (071-3024-XX)	Provides safety and compliance information along with hardware installation instructions to present the associated safety warnings. This manual is available in English, Japanese, and Simplified Chinese.	Printed manual and also available in electronic format at www.tektronix.com/downloads

Terms The following terms may be used in this document:

- **Clear.** This removes data on media/memory before reusing it in a secured area. All reusable memory is cleared to deny access to previously stored information by standard means of access.
- **Erase.** This is equivalent to clear.
- **Media storage/data export device.** Any of several devices that can be used to store or export data from the instrument, such as a USB port.
- **Nonvolatile memory.** Data is retained when the instrument is powered off.
- **Power off.** Some instruments have a “Standby” mode, in which power is still supplied to the instrument. For the purpose of clearing data, putting the instrument in Standby mode does not qualify as powering off. For these products, you will need to either press a rear-panel OFF switch or remove the power source from the instrument.
- **Remove.** This is a physical means to clear the data by removing the memory device from the instrument. Instructions are available in the product Service Manual.
- **Sanitize.** This eradicates the data from media/memory so that the data cannot be recovered by other means or technology. This is typically used when the device will be moved (temporarily or permanently) from a secured area to a non-secured area.
- **Scrub.** This is equivalent to sanitize.
- **User-modifiable.** The user can write to the memory device during normal instrument operation, using the instrument interface or remote control.
- **Volatile memory.** Data is lost when the instrument is powered off.

Clear and Sanitize Procedures

Memory Devices

The following tables list the volatile and nonvolatile memory devices in the standard instrument and listed options. Detailed procedures to clear or sanitize these devices, if any, are shown following each table.

Table 1: Volatile memory devices

Type and minimum size	Function	User modifiable ¹	Data input method	Location	To clear	To sanitize
FPGA 1.3 K	Audio measurement	No	Programmed by onboard flash memory	Plugs into optional Digital Audio board, IC8 on Dolby Audio board	None	Remove the power source from the instrument for at least 20 seconds
FPGA 920 KB	Audio measurement	No	Programmed by onboard serial EEPROM	U610 on Audio board	None	Remove the power source from the instrument for at least 20 seconds
DSP RAM 32kx8	Audio Measurement	No	Programmed from main board processor at boot up	Audio board U410	None	Remove the power source from the instrument for at least 20 seconds
DDR2 RAM 32M x 16	Microprocessor system memory	No	Written by processor system	Main board, U6, U36, U53, U73	None	Remove the power source from the instrument for at least 20 seconds
FPGA, DSP1 4.3 MB	Mapper #1	No	Programmed by onboard flash memory	Main board, U97	None	Remove the power source from the instrument for at least 20 seconds
QDR2 RAM 1 MB X 18	Mapper #1 RAM DSP1	No	Dynamic memory for FPGA DSP1	Main board, U4, U43	None	Remove the power source from the instrument for at least 20 seconds
DDR2 32M X 16 RAM	Mapper#1 RAM DSP1	No	None, Part is unused in current design	Main board, U21	None	Remove the power source from the instrument for at least 20 seconds
FPGA DSP2 4.3 MB	Mapper #2	No	Programmed by onboard flash memory	Main board, U161	None	Remove the power source from the instrument for at least 20 seconds
QDR2 RAM 1 MB X 18	Mapper #2 RAM DSP2	No	Dynamic memory for FPGA DSP2	Main board, U20, U162	None	Remove the power source from the instrument for at least 20 seconds
DDR2 32M X 16 RAM	Mapper#2 RAM DSP2	No	None, Part is unused in current design	Main board, U163	None	Remove the power source from the instrument for at least 20 seconds

Table 1: Volatile memory devices (cont.)

Type and minimum size	Function	User modifiable ¹	Data input method	Location	To clear	To sanitize
FPGA, DSY2 5 MB	Rasterizer FPGA	No	Programmed by onboard flash memory	Main board, U93	None	Remove the power source from the instrument for at least 20 seconds
DDR2 DSY 32 MB X 32	Frame Buffer #1 for DSY FPGA	Yes	User can initiate capture to this memory	Main board, U23, U65	None	Remove the power source from the instrument for at least 20 seconds
DDR2 DSY 32 MB X 32	Frame Buffer #2 for DSY FPGA	Yes	User can initiate capture to this memory	Main board, U44, U45	None	Remove the power source from the instrument for at least 20 seconds
DDR2 DSY 32 MB X 80	Capture Buffer for DSY FPGA	Yes	User can initiate capture to this memory	Main board, U91, U92, U94, U95, U96	None	Remove the power source from the instrument for at least 20 seconds
DSY SRAM	DSY FPGA Display SRAM	yes	Stores Graphics and text as shown on screen	Main board, U46, U47, U48, U49	None	Remove the power source from the instrument for at least 20 seconds

¹ During normal instrument operation.

Table 2: Nonvolatile memory devices

Type and minimum size	Function	User modifiable ¹	Data input method	Location	To clear	To sanitize
Serial EEPROM 256x8	Stores SDI calibration coefficients	No	Programmed during calibration	SDI board, U343	Recalibrate SDI	None
PLD	General decoding and control	No	Programmed by software during software upgrade	SDI board, U641	None	Reload the system software per the loading instructions
Serial EEPROM	Stores Eye calibration coefficients	No	Programmed during calibration	Eye board, U343	Recalibrate Eye	None
PLD	General decoding and control	No	Programmed by software during software upgrade	Eye board, U641	None	Reload the system software per the loading instructions
Flash Memory 4 MB	Audio measurement	No	Programmed by software during software upgrade	Plugs into optional Digital Audio board, IC9 on Dolby Audio board	None	Reload the system software per the loading instructions
Serial EEPROM 256 X 8	Stores audio calibration coefficients	No	Programmed during calibration	U0360 on Audio board	Recalibrate Audio	None
Serial EEPROM 256 X 8	Stores Composite calibration coefficients	No	Programmed during calibration	U12 on Composite board	Recalibrate Composite	None

Table 2: Nonvolatile memory devices (cont.)

Type and minimum size	Function	User modifiable ¹	Data input method	Location	To clear	To sanitize
NAND Flash 256 M X 8	Not used but is checked in power-up self-test	No	None	Main board, U103	None	None
NOR Flash 128 M X 16	Loads FPGAs on power up, contains instrument SW, network access parameters, and user-defined presets	yes	Programmed by software during software upgrade	Main board, U101, U102	Clear Presets and re-load instrument SW. this does not clear the factory-assigned MAC address.	None
NVS RAM plus Real Time Clock	Stores time set by user and Network parameters, Option Key, Instrument Type, Diagnostic log and last instrument state.	Yes	User Interface	Main board, U11	Set time to GMT. Clear diagnostic log, Clear network settings, restore factory preset then power down.	None
PLD, Glue	Programs DSP and DSY FPGAs and general control and decoding.	No	Programmed by software during software upgrade	Main board, U19	None	Reload the system software per the loading instructions
Serial Flash DSP1 32 M	Unused, Possible FPGA code storage for DSP 1	No	None	Main board, U16	None	Reload the system software per the loading instructions
Serial Flash DSP2 32 M	Unused, Possible FPGA code storage for DSP 2	No	None	Main board, U164	None	Reload the system software per the loading instructions
Parallel Flash DSY 32 M	Unused, Possible FPGA code storage for DSY	No	None	Main board, U63	None	Reload the system software per the loading instructions

¹ During normal instrument operation.**Clear Presets Procedure**

1. Press the **PRESET** button.
2. Use the arrow buttons to navigate to **Recall Preset > Recall Factory Preset** and press the **SEL** button.
3. Press the **PRESET** button.
4. Use the arrow buttons to navigate to **Save Preset > Select Group A > Save A1** and press the **SEL** button.
5. Repeat step 4 for all eight presets (1 through 8) for each of the four groups (A through D).
6. Use the arrow buttons to navigate to **Rename Preset > Select Group** (named preset).

7. Rename all Preset Groups and all Presets to generic names.
8. Press the **PRESET** button to exit the menu.

Clear Diagnostic Log Procedure

1. Press the **CONFIG** button. Then select **Utilities > View Diagnostic Log**. Press **SEL** to display the log.
2. Press **>** until the box by “Erase Log” is highlighted. Then press **SEL** to remove all entries in the diagnostic log.
3. Press **>** until the box by “Exit” is highlighted. Then press **SEL** to exit the log display.
4. Press the **CONFIG** button to exit the configuration menu.

Clear IP and SNMP Address Fields Procedure

1. Press the **CONFIG** button. Then select **Network Settings**.
2. Select **IP Config Mode** and set it to **Manual** to display the IP address.
3. Navigate to **IP Address**. Then press **>** to enter the edit mode. Enter “000.000.000.000” for the IP address.
4. Repeat Step 3 for the Subnet Mask, Gateway Address, SNMP Trap Address 1 through SNMP Trap Address 4, and Network Front Panel FP1 Address through FP4 Address.
5. Select Instrument Name, navigate to Clear, and press the **SEL** button.
6. Repeat step 5 for SNMP Public Community, SNMP Private Community, and Web password.
7. Press the **CONFIG** button to exit the configuration menu.

Data Export Devices

The following table lists the data export devices in the standard instrument and listed options. Detailed procedures to disable these devices, if any, are shown following the table.

Table 3: Data Export Devices

Type and minimum size	Function	User modifiable ¹	Data input method	Location	To disable
Ethernet	Communications	Yes	Standard Ethernet protocol	Rear of instrument	See <i>Disable Ethernet Access Procedure</i>

¹ During normal instrument operation.

Disable Ethernet Access Procedure

1. Press the **CONFIG** button. Then select **Network Settings**.
2. Navigate to the **Web Enable** and set it to **Off**.
3. Press the **CONFIG** button to exit the configuration menu.

Disable SNMP Access Procedure

1. Press the **CONFIG** button. Then select **Network Settings**.
2. Navigate to the **Web Enable** and set it to **Off**.
3. Navigate to the **SNMP Enable** and set it to **Off**.
4. Navigate to the **SNMP Trap Enable** and set it to **Off**.
5. Press the **CONFIG** button to exit the configuration menu.

Enable Ethernet and SNMP Access Procedure

To enable Ethernet and SNMP access, use the same procedures you would use to disable these devices, but select **On** to enable each device.

Troubleshooting

How to Clear or Sanitize a Non-Functional Instrument

To sanitize a non-functional instrument, remove the Main board and return the instrument to Tektronix for installation of a new Main board. This procedure does not clear calibration constants stored on the Audio, Eye and Composite boards.

How to Recover from Clearing or Removing the Instrument's Memory

Reload the system software per the loading instructions.